Egg freezing, procreative liberty, and ICSI: the double standards confronting elective self-donation of oocytes

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The consensus view among relevant professional societies opposing the offering of elective oocyte cryopreservation for potential future self-donation withstands neither clinical nor ethical scrutiny. The favorable risk-benefit ratio of this technology mandates both the prioritization of patient autonomy for informed women seeking to maximize—not guarantee—their chances of having genetically related children, and a justification for viewing egg freezing differently from intracytoplasmic sperm injection. (Fertil Steril® 2009;92:1509–12. ©2009 by American Society for Reproductive Medicine.)

Self-donation of oocytes offers promise as the twenty-first-century equivalent to the oral contraceptive. Its potential to “level the playing field” for women by permitting them time-unlimited control over their reproductive destiny has captured the public imagination and initiated widespread debate.

The well known age-related decline in fertility among women continues to present an often unyielding barrier to autologous procreation for many women who have delayed childbearing owing to personal or career considerations. These women, when fertility potential remains substantial, are most likely to undergo high-tech infertility therapies using their own eggs, often resulting in complicated pregnancies and multiple births. When fertility potential is poor, such women are often counseled to forego in vitro fertilization (IVF) with their own eggs, and to pursue donor oocytes obtained from young healthy women, an increasingly common practice that is clinically justified by the high success rates achieved. Nevertheless, these older recipients must sacrifice the desire to bear a genetically related child, a proposition that is personally or spiritually painful for many women.

Self-donation of oocytes has the potential to allow proactively maximizing their chances of passing their own genes on to a child, regardless of their age. Additionally, self-donation might appeal to women reluctant to pursue egg donation given their lingering perception that, despite widespread acceptance and ethical sanction, it potentially involves exploitation of the egg donor. Although the process of egg freezing via the traditional “slow-freeze” protocols has remained too inefficient to consider for the purpose of self-donation for future use, the recent advances in both slow-freeze technique and vitrification technology have enabled a dramatic improvement in the efficacy of oocyte cryopreservation (1, 2). For example, a 2008 study (3) comparing the performance of vitrified versus fresh oocytes demonstrated a reproductive performance of frozen-thawed eggs that was similar to fresh eggs. A vitrification survival rate of 97%, a fertilization rate of 76%, a clinical pregnancy rate of 65%, and an ongoing pregnancy rate of 48% were achieved.

Although confirmation of these results by other centers is awaited, these data clearly indicate that this is a technology that has arrived. Nevertheless, relevant professional societies, such as the American Society for Reproductive Medicine (ASRM), the American College of Obstericians and Gynecologists, and the European Society of Human Reproduction and Embryology, appear excessively deliberate in adapting policies toward this inevitable technologic advance, and they have expressed an unqualified hesitancy reflecting a double standard regarding gender. More disturbingly, such opposition unjustifiably infringes upon the autonomy of appropriately informed women and—given the recent improvement in egg freezing efficacy—restricts what should be a legitimate offering in the beneficent management of age-related infertility. A reconsideration of the appropriate role of oocyte cryopreservation for elective fertility extension within the armamentarium of assisted reproduction is warranted.

Representing the consensus view among the American and European professional societies, the ASRM states: “Oocyte cryopreservation is not an established medical treatment. [It is] an experimental procedure that should not be offered or marketed as a means to defer reproductive aging, primarily
because data relating to clinical outcomes are limited” (4). Clinical prudence and ethical practice dictate withholding sanction of novel technology pending evidence of efficacy and safety. However, marginalizing elective egg self-donation owing to its current clinical achievement ignores, in our opinion, a risk-benefit calculation that should legitimize this technology for appropriately informed women, and selectively imposes upon oocyte cryopreservation a burden of proof that has never been imposed on any advancement in reproductive technology to date, from IVF to intracytoplasmic sperm injection (ICSI).

In a recent study of the risks encountered by egg donors undergoing controlled ovarian hyperstimulation (COH) and ultrasound-guided transvaginal egg harvest—a scenario entailing identical risks to a patient seeking to freeze her own eggs—the rate of serious complication (ovarian hyperstimulation requiring hospitalization, intraperitoneal bleeding, torsion, ruptured ovarian cyst, or infection) was 0.7%, and the rate of minor complaints or complications necessitating medical attention (primarily ovarian hyperstimulation not requiring hospitalization) was 8.5% (5). Those reluctant to endorse the practice of elective oocyte cryopreservation based on safety considerations must justify why they think young egg donors, altruistic or entrepreneurial, may assert their prerogative to assume these small risks and undergo COH with oocyte retrieval, but women seeking to maximize their chances of autologous procreation should not do so. Moreover, a review of 200 births from vitrified oocytes showed no elevated incidence of congenital anomalies or low birth weight compared with IVF births from fresh oocytes (6). This constitutes more evidence of safety than was ever available before the early adoption of practices such as ICSI.

Indeed, the field of assisted reproduction in the United States has been criticized, perhaps justifiably, for repeatedly introducing, even promoting, laboratory breakthroughs into clinical practice without rigorous government-sponsored or supervised clinical trials to ensure safety and efficacy. Free-market dynamics combined with the disbanding of the Federal Ethics Advisory Board in 1980 and subsequent moratorium on federal sponsorship of IVF-related research or clinical endeavors have conspired to enable this unique evolution of assisted reproduction. The first American IVF baby was born in 1981, and just over a decade later, preimplantation genetic diagnosis was likewise imported from the United Kingdom without much testing for safety. Most dramatic was the leap of ICSI, an invasive and experimental technique, from a European fertility center to worldwide use, without what many would consider even cursory due diligence to establish its safety. And 15-plus years later, despite indisputable clinical efficacy, ICSI requires ongoing surveillance, because concerns persist regarding the genetic and epigenetic endowment of progeny derived from this procedure.

Given this history of rapid adoption of technology followed by concern and enhanced monitoring, the cautious stance by various organizations on elective egg freezing, while unprec-
In summary, a cautious approach to elective self-donation of eggs is warranted; the potential for both societal transformation and manipulative, dishonest, and unseemly marketing remain great and have always been a challenge to patients and practitioners in this field. But for the informed woman seeking procreative liberty via greater control over her reproductive destiny, the considerations of autonomy and beneficence override those of commercialization, deleterious change and exploitation. The ASRM should reconsider its view on elective oocyte cryopreservation and support the clinically and ethically justified aspirations of single women seeking to maximize their likelihood of having genetically related offspring.

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REFERENCES


